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Career Development Model

For

truData

Data Engineering & Intelligence CoE / Practice

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## Version history

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| --- | --- | --- | --- |
| **Revision** | **Date** | **Reason & Summary of Change(s)** | **Changed By** |
| 1.0 | 04/08/2022 | Initial Document | Chandra Josyula |
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## Overview

Individuals within the truData Data Engineering and Intelligence Professional career model perform work within data engineering and intelligence technology development, integration and infrastructure. They work closely with business users and team members to understand and recommend business requirements that drive the analysis and design of technical solutions.

As Data E&I Team members progress along the career paths, they move from basic tasks to more complex tasks, from narrow program responsibility to system wide responsibility, and from support of a single subject area or group to support of several subject areas or groups. Junior level members assist and participate in the daily efforts of the truData Data E&I department, while more senior level members take on more initiative and responsibility by leading and facilitating the efforts of Data E&I team members as well as user groups.

In addition to increasing levels of project lead and system responsibility, individuals also grow in terms of technical and business knowledge and expertise.

|  |
| --- |
| Text, logo  Description automatically generated  **Data Engineering & Intelligence Career Model**  **Practice Head – Data Engineering & Intelligence**  **Data Engineering, Intelligence and Visualisation**    **Head – Data Science**  **Lead –**  **BI Senior Engineer**  **Lead – Sr. Solution Architect**  **Principal Data Scientist**  **Solution Architect**  **Application Specialist**  **Senior Data Scientist**  **BI Engineer**  **Senior Data Engineer**  **Data Engineer**  **Data Scientist**  **Data Analyst / Jr. Data Scientist (Intern)**  **Jr. BI Engineer (Intern)**  **Data Analyst /Jr. Engineer (Intern)** |

## Explanation of Levels

**Data Science & Analytics**

| **Levels** | **Data Analyst/Jr. Data Scientist (Intern) 0-2 years** | **Data Scientist**  **3-6 years** | **Senior Data Scientist**  **7-10 Years** | **Principal Data Scientist**  **11-14 Year** | **Head – Data Science**  **15 & above** |
| --- | --- | --- | --- | --- | --- |
| **Data E & I** | ***Data Analyst & Jr. Data Scientist*** | ***Data Scientist*** | ***Sr. Data Scientist*** | ***Principal Data Scientist*** | ***Head of Data Science*** |

**Data Engineering**

| **Levels** | **Data Analyst /Jr. Data Engineer (Intern)**  **0-2 years** | **Data Engineer**  **3-6 years** | **Senior Data Engineer**  **7-10 Years** | **Solution Architect**  **11-14 Year** | **Senior Solution Architect**  **15 & above** |
| --- | --- | --- | --- | --- | --- |
| **Data E & I** | ***Jr. Developer*** | ***Senior Developer*** | ***Lead Developer*** | ***Solution Architect*** | ***Head of Data Engineering*** |

**Data Visualization**

| **Levels** | **BI Data Analyst /Jr. BI Data Engineer (Intern)**  **0-2 years** | **BI Data Engineer**  **3-6 years** | **BI Sr. Data Engineer**  **7-10 years** |
| --- | --- | --- | --- |
| **Data E & I** | **BI Data Analyst /Jr. BI Data Engineer** | **BI Data Engineer** | Sr. Developer / Lead |

The following provides an example of a career path for the BI Professional. This depicts a path where an individual progresses upwards into a purely technical or managerial path. However, an individual may also decide to move laterally into other roles (i.e., business analyst to the developer, production support to testing.)

## Career Path – Data E & I - Data Science & Analytics

The following section is intended to serve as a general guideline for each relative dimension of project complexity, responsibility and education/experience within this career model. This table is **not intended for use as a checklist to facilitate promotions** or to define specific responsibilities as outlined in a job description. Actual responsibilities and experiences may vary.

| Levels | **Data Analyst/Jr. Data Scientist (Intern) 0-2 years** | **Data Scientist**  **3-6 years** | **Senior Data Scientist**  **7-10 Years** | **Principal Data Scientist**  **11-14 Year** | **Head – Data Science**  **15 & above** |
| --- | --- | --- | --- | --- | --- |
| Role | ***Data Analyst & Jr. Developer*** | ***Developer*** | ***Sr. Developer*** | ***Lead*** | ***Head*** |
| **WORK COMPLEXITY** | * Extract data from multiple data sources. * Clean the data and remove all the noise. * Integrate and Load Data to a centralized location (if needed). * Perform exploratory Data Analysis on the data loaded. * Choose the right Predictive or Machine Learning model for the problem. * Apply those models and extract meaningful insights. * Measure and improve results (if needed). * Present results to a senior and make adjustments based on the feedback. * Repeat the process to solve the problem. | * Mentoring Jr Data Scientists * Data mining or extracting usable data from valuable data sources * Using machine learning tools to select features, create and optimize classifiers * Carrying out preprocessing of structured and unstructured data * Enhancing data collection procedures to include all relevant information for developing analytic systems * Processing, cleansing, and validating the integrity of data to be used for analysis | * Identify valuable data sources and automate collection processes. * Undertake to preprocess of structured and unstructured data. * Analyze large amounts of information to discover trends and patterns. * Build predictive models and machine-learning algorithms. * Combine models through ensemble modeling. * oversees the activities of the junior data scientists and provides advanced expertise on statistical and mathematical concepts for the broader Data and Analytics department | * Cross-collaborate with engineers on building statistical models, applying machine learning techniques for targeted solutions, and effectively communicating the analysis and findings through interactive visualizations, documents and presentations * Partner with our in-house team of geneticists on R&D projects * Key responsibilities for leading a team a global team in model design, analytic approach, and data quality vetting * Provide insight into analytical software technologies * Actively manage team and remove performance blockers to ensure timely analytics delivery * Handling large amounts of data using various tools, including your own | * Leadership/Supervisory * Strategy * Collaboration * Analytics * Knowledge * set processes and governance for the team |
|  |  | * Analyzing large amounts of information to find patterns and solutions * Developing prediction systems and machine learning algorithms * Presenting results in a clear manner * Propose solutions and strategies to tackle business challenges * Collaborate with Business and IT teams |  | * Apply your expertise in quantitative analysis, data mining, and the presentation of data to develop experiments and provide algorithmic problem-solving solutions * Handle large amounts of data using various tools, including your own * Ensure high-quality data and understand how that data which is generated out experimental design can produce actionable, trustworthy conclusions |  |
| **TYPICAL RESPONSIBILITIES** | * Responsible for Data analysis, extracting the data from multiple data sources, and integrating at a centralized location. * Perform exploratory Data Analysis on the data loaded. * Choose the right Predictive or Machine Learning model for the problem. | * Responsible for development, testing, maintenance, enhancements and/or support activities. Responsibilities include, but may not be limited to, the following: (see following pages) | * Analyze large amounts of information to discover trends and patterns. * Build predictive models and machine-learning algorithms. * Combine models through ensemble modeling. | * Key responsibilities for leading a team a global team in model design, analytic approach, and data quality vetting * Provide insight into analytical software technologies * Actively manage team and remove performance blockers to ensure timely | * Leadership/Supervisory * Strategy * Collaboration |
| **Strategy and Business Plan** | N/A | N/A | * Participates in action planning sessions with a user to implement improvements within an assigned work area. Generally, involves improving solution design. Documents discussion and agreements. | * Participates in **short- and long-term** planning sessions with users to implement improvements within an assigned work area. Generally, involves improving solution design. Documents discussion and agreements. | * Participates in Data Science Practice Short and long-term planning sessions with users and, an internal team to implement and improvements within the data science practice. * Collaborate with the business stakeholders and internal engineering teams. |
| **Business Relationship** | N/A | N/A | Interfaces between the users and the IT organization in order to provide technical solutions to meet user needs. Escalates conflicts, as needed. | the users and the IT organization in order to provide technical solutions to meet user needs. Escalates or **resolves** conflicts, as needed. | * **relationships** with the users and the IT organization to provide technical solutions to meet user needs through analyzing business workflows and understanding **business needs.** Resolves conflicts, as needed. * Establishes relationships with users and the IT organization in order to provide technical solutions to meet user needs and **influence strategic initiatives.** |
| **Prioritize/Advise** | N/A | N/A | Assesses localized needs utilizing a structured requirements process to assist in identifying business priorities and advise on options. | * **Prioritizes needs to determine** **impact** on business processes and advising user(s) on options, risk and cost vs. benefits. * Assesses localized needs utilizing a structured requirements process to **prioritize** **immediate** business needs and **recommend** options, **risk and costs vs. benefits.** | * **Prioritizes needs to determine** **impact** on business processes and advising user(s) on options, risk and cost vs. benefits. * **Assesses** needs **of a business function to establish strategic** priorities**. Consults or facilitates the generation of alternative solutions. Determines** impacts on business processes and system priorities**.** Advisesonoptions, risk, costs vs. benefits. |
| **Business Requirements** | N/A | Evaluates user change requests and obtains approval to make modifications. | **Collects and communicates business requirements for the implementation of business solutions. Seeks technical assistance to help in problem resolution.** | * Collects and communicates business requirements for the implementation of business solutions. Seeks technical assistance to help in problem resolution. * **Develops, writes,** andcommunicates business requirements for the implementation of business solutions. Seeks technical assistance to help in problem resolution. | **Leads the process of identifying and communicating high-level** business requirements for the **identification, design** and implementation of business solutions. **Assists in the resolution of problems reported to IT by users as needed.** |
| **Project Plan** | N/A | N/A | Participates in project planning sessionswith team members to analyze business and technical requirements. | Participates in project planning sessionswith users and/or team members to analyze business and technical requirements. **Assists in the development of detailed project plans and schedules or assists in the development of work plan timelines.** | Participates in project planning sessions with users and team members to analyze business and technical requirements. **Determines staffing requirements and forms project teams.** May develop detailed project plans and schedules or assists in the development of work plan timelines. |
| **Project Lead** | N/A | N/A | N/A | May provide work direction and leadership to assigned programs, including scheduling, assignment of work and review of individual project efforts. | May provide work direction and leadership to assigned programs, including scheduling, assignment of work and review of individual project efforts. |
| **Project Management** | N/A | N/A | N/A | May negotiate changes in the project schedules, deliverables, or cost with the project sponsor, as required. | * **Monitors project(s)** * **milestones and critical dates to identify potential jeopardy of project schedule. Identifies ways to resolve schedule issues. Keeps management aware of the situation.** **Negotiates** changes in the project schedules, deliverables, or cost with the project sponsor, as required * May negotiate changes in the project schedules, deliverables, or cost with the project sponsor, as required. |
| **System Requirements** | N/A | N/A | Participate in the identification of system requirements. | **Identifies** system requirements. **Devises or modifies procedures to solve problems considering computer equipment capacity and limitations, operating time, form of desired results, and integration of components.**  **Leads** the identification system requirements. Devises or modifies procedures to solve problems considering computer equipment capacity and limitations, operating time, form of desired results, and integration of components. | **Consults on** oridentifies system requirements for **large and complex new applications. Reviews** system requirements **across multiple applications.** |
| **Technical Specifications** | N/A | N/A | May develop technical specifications for applications. Makes recommendations for the development of new code or reuse of existing code. | Develops technical specifications for applications. **Serves as technical subject matter expert** for the development of new code or reuse of existing code. **May develop conversion and migration designs.** | **Reviews** technical specifications for applications for the development of new code or reuse of existing code.May develop conversion and migration designs.  **Serves as the subject matter expert** for the development and reuse of **BI components on an enterprise-wide scale. Designs and implements common system interfaces and code reuse library for enterprise-wide use.** **Develops** conversion and migration designs. |
| **Data Identification** | Utilizes current data guidelines. | Utilizes current data guidelines. | **May identify best sources of data and works with architects to ensure feasibility with corporate data sources, when needed.** | **Identifies** best sources of data and works with architects to ensure feasibility with corporate data sources, when needed. | **Leads** the identification of best sources of data and works with architects to ensure feasibility with corporate data sources, when needed.  **Works with application teams and technical teams to maintain the enterprise data architecture and data model(s).** |
| **Middleware Solutions** | N/A | Utilizes middleware tools for designing developing or enhancing solutions when required. | Utilizes middleware tools for designing developing or enhancing solutions when required. | **Research recommends**, d **applies middleware to facilitate the portability and scalability of applications.** Utilizes middleware tools for designing, developing or enhancing solutions when required. | Research recommends, nd applies the use of middleware to facilitate the portability and scalability of applications. |
| **Development** | Develops and/or modifies basic application components using disciplined software development processes. Conducts unit testing to ensure the application meets specifications. | Develops and/or modifies **moderately complex** application components using disciplined software development processes. Conducts unit testing to ensure the application meets specifications. | Develops and/or modifies **complex** application components using disciplined software development processes. Conducts unit testing to ensure the application meets specifications. | **Leads projects following** disciplined software development processes. May develop and/or modify complex application components using disciplined software development processes. Conducts unit testing to ensure the application meets specifications. | May develop **prototypes for proof-of-concept projects to demonstrate the applicability of new or emerging technologies.** |
| **Test** | N/A | Develops test cases and assists in conducting systems and integration testing. May assist in user testing. | Develops test cases, conducts, systems testing and **implements** integration test **plans. Assists in user testing.** | **Oversees** systems testing and **leads** integration testing. Assists in user testing. | **Develops plans and leads** the implementation of integration testing. |
| **Formal Client Reviews** | N/A | N/A | Conducts formal review with business sponsor at project completion to confirm acceptance and satisfaction. | Conducts formal review with business sponsor at project completion to confirm acceptance and satisfaction. **Tracks user satisfaction levels.** | Conducts formal review with business sponsor at the competition of the **program and each related project** to confirm acceptance and satisfaction. **Evaluates** user satisfaction levels**.** |
| **Change Control** | N/A | Makes modules test and/or production ready by moving them to libraries, completing forms, following procedures, completing version control documents, etc. | Makes modules test and/or production ready by moving them to libraries, completing forms, following procedures, completing version control documents, etc. | Makes modules test and/or production ready by moving them to libraries, completing forms, following procedures, completing version control documents, etc. | N/A |
| **Production Support** | N/A | Assists in scheduling test or production jobs. Creates and/or monitors reports regarding results. | Assists in scheduling test or production jobs. Creates and/or monitors reports regarding results.  **Schedules** test orproduction jobs. Creates and/or monitors reports regarding results **or monitors system’s functionality**. **Analyzes reports and makes recommendations/solutions on findings.** | **Coordinates** test or production schedules. Creates and/or monitors reports regarding results or monitors system’s functionality. Analyzes reports and makes recommendations/ solutions on findings. | Analyzes reports and make recommendations/ solutions on findings, **as needed**. |
| **Troubleshoot** | N/A | Assists in providing user navigation, data analysis/reconciliation and front-end support. Troubleshoots existing modules to identify errors or deficiencies. | **Provides** data analysis/reconciliation support.Troubleshoots existing modules to identify errors or deficienciesand **develops solutions.** | Provides advanced data analysis/reconciliation and front-end/back-end support. Troubleshoots existing modules to identify errors or deficiencies and develops solutions. | **Oversees** and may handle complex support issues**. Provides technical guidance to junior level.** |
| **Maintenance** | N/A | Provides on-going maintenance of applications. Identifies, reviews and evaluates user problems and determines the most appropriate course of action for resolution, with assistance. | Provides on-going maintenance of applications. Identifies, reviews and evaluates user problems and determines the most appropriate course of action for resolution, with assistance. | Provides on-going maintenance of applications. Identifies, reviews and evaluates user problems and determines the most appropriate course of action for resolution, **with the ability to recognize the long-term implications.** | **Coordinates** the maintenance of **assigned application systems**.  Identifies reviews and evaluates user problems and determines the most appropriate course of action for resolution, with the ability to recognize the long-term implications. |
| **Continuous Improvements** | N/A | Looks for opportunities to eliminate inefficiencies. | Looks for opportunities to eliminate inefficiencies. | Looks for opportunities to eliminate inefficiencies. | **Analyzes the current architecture to identify weaknesses and develop opportunities for improvements such as expanding capacity, reducing time & cost, and increasing effectiveness.** |
| **Systems Performance** | N/A | May monitor application’s performance. May work with other IT groups in identifying and/or fixing problem areas. | **Monitors** application’s performance. May work with other IT groups in identifying and/or fixing problem areas. | Monitors application performance **metrics. May provide input to solutions and/or recommendations for improvement.** | **Provides guidance or directs the designing of solutions to improve application’s performance.** |
| **Configuration Management** | N/A | May assist in researching, evaluating, and specifying the configuration of hardware and/or software for application’s environment. | **Assists** in researching, evaluating, and specifying the configuration of hardware and/or software for application’s environment. | **Assists** in researching, evaluating, and specifying the configuration of hardware and/or software for application’s environment. | **Researches, evaluates, and specifies** the configurationof hardware and/or software for application’s environment. |
| **Communications** | Communicates with team members,on a regular basis as to the status of assignments through project meetings, projects status reports, email, etc. | Communicates with users and/or team memberson a regular basis as to the status of assignments through project meetings, projects status reports, email, etc. | Communicates with users and/orteam members on a regular basis as to the status of assignments through project meetings, projects status reports, email, etc. | Communicates with users and/orteam memberson a regular basis as to the status of assignments through project meetings, projects status reports, email, etc. | Communicates with users and/orteam memberson a regular basis as to the status of assignments through project meetings, projects status reports, email, etc. **Prepares deliverables and documentation executive-level audience.** |
| **Architecture Compliance** | N/A | May Complies with architecture and quality processes, principles, policies and standards. | Complies with architecture and quality processes, principles, policies and standards. **Participates in software inspections and quality reviews** | Complies with architecture and quality processes, principles, policies and standards. Participates in software inspections and quality reviews. **Provides input to policies and standards.** | **Coordinates** software inspections, quality reviews and **ensures** team’s compliance with application architecture and quality processes, principles, policies and standards.  **Develops convergence plans toward standards, as needed.** Provides input to policies and standards.  **Develops, communicates and** ensurescompliance with architecture and quality processes, principles, policies and standards for the enterprise. |
| **Customer Satisfaction** | N/A | N/A | May Measures against metrics to ensure customer satisfaction. | Measures against metrics to ensure customer satisfaction. | **Assists in development of metrics both within IT and business organizations. Conducts an analysis of metrics for investment** to ensure customer satisfaction. |
| **Research & Analysis** | N/A | N/A | Collects research on the competition in terms of best practices, business processes and procedures. May evaluate hardware and/or software products. Provides buy vs. build recommendations. Advises on system options, risk, cost versus benefits, and impacts on business processes and goals | Collects research on the competition in terms of best practices, business processes and procedures. May evaluate hardware and/or software products. Provides buy vs. build recommendations. Advises on system options, risk, cost versus benefits, and impacts on business processes and goals | **Leads** the evaluation and **selection process.** **Recommends alternative corporate products, solutions and strategies based upon best practice research. Advises** userson buy vs. build decisions. |
| **Mentors** | N/A | **Provides technical coaching** and mentoring to less experienced team members**.** | Provides technical coaching and mentoring to less experienced team members**. May develop and deliver briefings to users and team members**. | Provides technical coaching, and mentoring to team members. **Provides technical guidance or business process expertise. Develops** and delivers technical briefings and **presentations to users and management.** | Provides **technical leadership**, coaching and mentoring to team members. Provides technical guidance or business process expertise. Develops and delivers technical briefings and presentations to users and **senior management.** |
| **TYPICAL EDUCATION/**  **EXPERIENCE** | Bachelor’s degree, specialized training, certification, or equivalent work experience. | Bachelor’s degree, specialized training, certification, or equivalent work experience. | Bachelor’s degree, specialized training, certification, or equivalent work experience. | Bachelor’s degree, specialized training, certification, or equivalent work experience. | Bachelor’s degree, specialized training, certification, or equivalent work experience. |
|  | Typically requires 0-2 years’ experience within the relevant area of work performed. | Typically requires **3-6** years of experience within the relevant area of work performed. | Typically have **7-10** years of experience within the relevant area of work performed. | Typically have **11-14** years of experience within the relevant area of work performed. **Requires experience in leading teams.** | Typically **requires >15 plus years** of experience within the relevant area of work performed. Experience in leading projects. |
|  | Requires basic knowledge of Statistics Technology and systems life- cycle. | Requires working knowledge of **relevant technical discipline, ability to learn and apply new technology**, Data Science Technology and systems life-cycle knowledge. | Requires skill and **proficiency in many technical functions and the ability to integrate across disciplines.** | Requires skill and proficiency in many technical functions and ability to integrate across disciplines. | Requires the **ability to provide strategic direction, guidance and integration of products or services across the organization.** |
|  |  | Requires knowledge of one business function/process and may require an understanding of the business and BI strategies. | Requires knowledge of one **or** **more** business function/process and understanding of the business and BI strategies. | Requires knowledge of one or more business function/process and understanding of the business and BI strategies. | Requires knowledge of **multiple** business function/process and understanding of the business and IT strategies. |

## Explanation of Proficiency Level Definitions

Proficiency scale definitions are provided to help determine an individual’s proficiency level in a specific competency. The rating scale below was created as a foundation for the development of proficiency level definitions used for assessments.

|  |  |
| --- | --- |
| Novice: (N) | Demonstrates **minimal** use of this competency; limited knowledge of subject matter area; needs frequent assistance and **close supervision** for direction. Currently developing competency. |
| Basic: (B) | Demonstrates **limited** use of this competency; basic familiarity of subject matter area; needs additional training to apply without assistance or with **frequent supervision**. |
| Intermediate: (I) | Demonstrates **working or functional proficiency** level sufficient to apply this competency effectively without assistance and with **minimal supervision**; working/functional knowledge of subject matter area. |
| Advanced: (A) | Demonstrates **in-depth proficiency** level sufficient to assist, consult to, or lead others in the application of this competency; in-depth knowledge in subject matter area. |
| Expert: (E) | Demonstrates broad, in-depth proficiency sufficient to be recognized as an **authority or master performer** in the applications of this competency, recognized authority/expert in subject matter area. |

## Proficiency Summary - Data E & I - Data Science & Analytics

The chart provides a summary of proficiency ratings.

| **CAREER MODEL LEVEL/COMPETENCY** | **Data Analyst/Jr. Data Scientist (Intern)** | **Data Scientist** | **Senior Data Scientist** | **Principal Data Scientist** | **Head – Data Science** |
| --- | --- | --- | --- | --- | --- |
| Role | ***Data Analyst & Jr. Developer*** | ***Developer*** | ***Sr. Developer*** | ***Lead*** | ***Head*** |
| Behavioral |  |  |  |  |  |
| **Communication for Results:** Expresses technical and business concepts, ideas, feelings, opinions, and conclusions so that others understand or are persuaded to act. Creates an environment that encourages and values the opinions of others, and promotes sharing of information and ideas. | **N** | **B** | **I** | **A** | **A** |
| **Information Seeking:** Thoroughly investigates and researches multiple sources to expose details and complete information about resources, issues, problems, and so forth. Conducts in-depth research, asks probing questions, and transcends surface issues. | **N** | **I** | **A** | **A** | **E** |
| **Initiative:** Proactively identifies present and future obstacles, issues, and opportunities. Takes actions to address such obstacles. | **N** | **B** | **I** | **A** | **E** |
| **Innovation:** Motivated to improve organizational performance through the introduction of new ideas, methods, processes, products, or services. Develops new ways of looking at a situation. | **N** | **B** | **I** | **A** | **E** |
| **Problem Solving:** Thinks critically and anticipates, recognizes, identifies, and develops solutions to problems in a timely manner. | **B** | **B** | **A** | **A** | **E** |
| **Teamwork:** Fosters an environment where individuals collaborate in pursuit of a common mission and mutual goals. | **B** | **I** | **A** | **E** | **E** |
| **Thoroughness:** Demonstrates careful attention to detail. Keeps tasks and responsibilities clearly defined, on schedule, and error-free. Carries tasks, assignments, etc., through to completion. | **I** | **B** | **A** | **E** | **E** |
| Business |  |  |  |  |  |
| **Business Process Knowledge:** Informed and cognizant of the key processes in the business, as well as the business rules that impact the development and/or implementation of Information Technology. | **N** | **B** | **I** | **E** | **A** |
| **Quality Process Techniques:** Knowledge of the quality techniques, methodologies, and tools required to improve business technical processes, customer satisfaction, productivity, and cost containment. | **N** | **B** | **I** | **E** | **A** |
| Technical |  |  |  |  |  |
| **Business Requirements Analysis:** Thorough familiarity and understanding of the intricacies of a customer's business, e.g., function, processes, and operations. Understands and can delineate technical design requirements for supporting Information Technology. | **N** | **B** | **I** | **A** | **E** |
| **Information Technology Knowledge:** Maintains and applies specific knowledge of BI & Portal Technology elements (hardware, software, and network) and their application to business functions/processes. | **N** | **I** | **A** | **E** | **E** |
| **Project/Program Management:** Understands the principles, theories, practices and techniques for managing activities involved in planning, managing and implementing projects and programs. | **N** | **N** | **I** | **A** | **E** |

## Proficiency Matrix - Data E & I - Data Science & Analytics

The following charts illustrate proficiency levels for each competency.

| **CAREER MODEL LEVEL/COMPETENCY** | **Data Analyst/Jr. Data Scientist (Intern)** | **Data Scientist** | **Senior Data Scientist** | **Principal Data Scientist** | **Head – Data Science** |
| --- | --- | --- | --- | --- | --- |
| Role | ***Data Analyst & Jr. Developer*** | ***Developer*** | ***Sr. Developer*** | ***Lead*** | ***Head*** |
| Behavioral |  |  |  |  |  |
| **Communication for Results:** Expresses technical and business concepts, ideas, feelings, opinions, and conclusions so that others understand or are persuaded to act. Creates an environment that encourages and values the opinions of others, and promotes sharing of information and ideas. |  |  |  |  |  |
| **Novice (N):** Understands communication techniques that foster trust and an open sharing of information. Understands concepts and approaches for sharing information, persuading and influencing others. |  |  |  |  |  |
| **Basic (B):** Effectively communicates ideas, opinions, questions or concerns in one-on-one situations. Accurately restates the situation even when in disagreement. Understands and articulately answers questions when asked. Seeks feedback on own verbal and non-verbal style and effectiveness. Practices attentive and active listening skills. | **□** |  |  |  |  |
| **Intermediate (I):** Speaks effectively in group situations, e.g., meetings, presentations. Expresses ideas in a clear, concise and thorough manner. Simplifies technical or complex information without insulting the listener/reader. Takes measures to ensure understanding has occurred. Asks questions to clarify or discern implied or poorly expressed meanings. |  | **□** | **□** |  |  |
| **Advanced (A):** Presents information or ideas to the interests, level and needs of the audience. Actively engages participants and encourages input. Uses group process skills to ensure that the agenda is met. Promotes and facilitates free and open communication. Adapts choice of language and presentation of ideas to fit various needs and perspectives of audiences. |  |  |  | **□** |  |
| **Expert (E):** Presents difficult or complex ideas clearly and effectively, translating complex technical concepts into laymen terms. Relates complex issues and articulates in a straightforward manner. Communicates effectively with a wide variety of technical and business audiences. Considered an excellent public speaker and communicator. |  |  |  |  | **□** |
| **Information Seeking:** Thoroughly investigates and researches multiple sources to expose details and complete information about resources, issues, problems, and so forth. Conducts in-depth research, asks probing questions, and transcends surface issues. |  |  |  |  |  |
| **Novice (N):** Seeks to understand the cause of problems and their solutions. Asks direct questions of people present in a situation, or of those people who are directly involved but not physically present. Uses viable information or consults other available resources. Attempts to find answers from sources that are not provided. |  |  |  |  |  |
| **Basic (B):** Investigates a problem or situation with limited guidance. Pursues issues, symptoms or a series of incidents that could potentially lead to a problem. Finds and questions individuals closest to a problem. Asks open questions that provide information regarding “what happened?” and “why?” Understands where to find information sources and how to use them. | **□** |  |  |  |  |
| **Intermediate (I):** Easily asks probing questions to get to the root cause of a situation or a problem, or a potential opportunity below the surface issues presented. Does not stop with the first answer in order to determine why something happened. Seeks to better understand the context, nature and expectations of deliverables. Obtains information from a variety of sources. |  | **□** |  |  |  |
| **Advanced (A):** Effectively delivers information in a limited period of time after conducting an in-depth investigation or obtaining needed data/feedback from unusual sources. Demonstrates a solid understanding of how to conduct formal research through various resources to conduct market, financial, or competitor research. Consistently uses effective and efficient research techniques. |  |  | **□** |  |  |
| **Expert (E):** Establishes on-going processes or demonstrates skills to get new information. Regularly gathers information from one-on-one and group forums to recommend alternatives and solutions. Consistently conducts debriefings to identify and initiate process improvements. Researches industry trends to gain new understanding and readily shares insights with others. |  |  |  | **□** | **□** |
| **Initiative:** Proactively identifies present and future obstacles, issues, and opportunities. Takes actions to address such obstacles. |  |  |  |  |  |
| **Novice (N):** Seeks out and takes on responsibilities and assignments. Identifies opportunities or problems and acts quickly and decisively to respond to the situation. Takes the lead to complete analysis or create models to improve performance or solve customer problems. | **□** |  |  |  |  |
| **Basic (B):** Recognizes opportunities to act and make a difference. Takes action without over-analyzing or waiting until it is too late. Willingly takes charge and acts in the face of adversity. Accepts assignments that appear less than ideal, with confidence that the people, processes and systems in the organization can effectively work through issues and obstacles. |  | **□** |  |  |  |
| **Intermediate (I):** Takes or directs repeated and varied actions to overcome technical or people obstacles, rejection or failure. Sustains action over a long period, even in the face of adversity. Sees barriers as challenges or opportunities. Acts as a model of action orientation to others by consistently “pushing the limit” (i.e., speed and decisiveness in support of high performance business outcomes). |  |  | **□** |  |  |
| **Advanced (A):** Anticipates the future and takes decisive action to either create opportunities or minimize potential problems. Seizes the opportunity to initiate new activity or introduce new approaches into the organization. Proactively addresses next steps, upcoming issues and obstacles. |  |  |  | **□** |  |
| **Expert (E):** Anticipates the future and takes decisive action to either create opportunities or minimize potential problems. Proactively addresses next steps, upcoming issues and obstacles. Takes calculated, high level risks that commit significant organizational resources to deliver significant business outcomes. Consistently performs and delivers top business results through approaches for which there are few or no precedents. |  |  |  |  | **□** |
| **Innovation:** Motivated to improve organizational performance through the introduction of new ideas, methods, processes, products, or services. Develops new ways of looking at a situation. |  |  |  |  |  |
| **Novice (N):** Demonstrates a basic understanding of innovation in business. Can discuss characteristics of an innovative environment. Participates in brainstorming discussions and looks for opportunities to contribute ideas. | **□** |  |  |  |  |
| **Basic (B):** Listens to new ideas with an open mind. Understands the existing incentive and reward systems for innovation and creativity. Exhibits interest in new ideas and experimentation by pointing out opportunities for innovation. |  | **□** |  |  |  |
| **Intermediate (I):** Shares new ideas and consistently demonstrates openness to other opinions and views. Explores possibilities and opportunities; accepts occasional setbacks or failures. Analyzes own assignments and work environment objectively. Contributes and encourages ideas and builds on others’ suggestions. |  |  | **□** |  |  |
| **Advanced (A):** Challenges conventional thinking and traditional ways of operating; looks for problems, bottlenecks or inefficiencies. Maintains balance between innovation and pragmatism. Encourages, solicits and rewards brainstorming and imaginative ideas. Supports experimentation and accepts occasional setbacks or failures. |  |  |  | **□** |  |
| **Expert (E):** Adept at examining old problems in new ways. Promotes a climate that encourages fresh perspectives, innovative ideas and experimentation. Views setbacks or failures as learning opportunities. Champions new initiatives within and beyond scope of position. Directs creativity toward effective implementation of technology-related solutions. |  |  |  |  | **□** |
| **Problem Solving:** Thinks critically and anticipates, recognizes, identifies, and develops solutions to problems in a timely manner. |  |  |  |  |  |
| **Novice (N):** Understands basic problem solving concepts together with the need to have a structured approach to problem analysis. | **□** |  |  |  |  |
| **Basic (B):** Knowledge and ability to troubleshoot problems. Utilizes tools, pre-defined steps, and experience to diagnose and manage technical problems; performs root cause and cause and effect analyses. |  | **□** |  |  |  |
| **Intermediate (I):** Applies specific problem solving methodologies to solve complex problems; analyzes information, develops strategies and recommends alternative solutions. |  |  | **□** |  |  |
| **Advanced (A):** Identifies deficiencies and inefficiencies in critical business processes and applications; recommends and often implements corrective and/or preventive actions. Identifies risk level; gains support and buy-in for problem resolution. |  |  |  | **□** |  |
| **Expert (E):** Anticipates problem areas and associated risk level. Understands long term trends and implications of alternative approaches. Coaches others in problem solving techniques and methodologies. |  |  |  |  | **□** |
| **Teamwork:** Fosters an environment where individuals collaborate in pursuit of a common mission and mutual goals. |  |  |  |  |  |
| **Novice (N):** Participates willingly by supporting team decisions, assisting other team members, and doing his/her share of the work to meet goals and deadlines. Keeps other team members informed and updated about client-related decisions, group processes, individual actions, or influencing events. Shares all relevant and useful information. |  |  |  |  |  |
| **Basic (B):** Takes initiative to actively participate in team interactions. Without waiting to be asked, constructively expresses own point of view or concerns, even when it may be unpopular. Ensures that the limited time available for collaboration adds significant customer value and business results. | **□** |  |  |  |  |
| **Intermediate (I):** Actively solicits ideas and opinions from others to quickly accomplish specific decisions or plans targeted at defined business outcomes. Openly encourages other team members to voice their ideas and concerns. Shows respect for differences and diversity; disagrees without personalizing issues. Involves other team members to achieve optimal performance by utilizing one another’s strengths. |  | **□** |  |  |  |
| **Advanced (A):** Consistently fosters collaboration and respect among team members by addressing elements of the group process that impedes, or could impede, the group from reaching its goal. Engages the “right people”, despite location or functional specialty, in the team by matching individual capabilities and skills to the team’s goals. Experienced in working with a wide range of teams and readily shares lessons learned. |  |  | **□** |  |  |
| **Expert (E):** Identifies and improves communication to bring conflict within the team into the open and facilitate resolution. Openly shares credit for team accomplishment. Monitors individual and team effectiveness and recommends improvement to facilitate collaboration. Considered a role model for team player. Maintains high level of enthusiasm and commitment to team goals under difficult or adverse situations; encourages others to respond similarly. Strongly influences team strategy and processes. |  |  |  | **□** | **□** |
| **Thoroughness:** Demonstrates careful attention to detail. Keeps tasks and responsibilities clearly defined, on schedule, and error-free. Carries tasks, assignments, etc., through to completion. |  |  |  |  |  |
| **Novice (N):** Demonstrates minimal attention to detail because of a lack of detailed knowledge. Understands need for attention to detail and thoroughness, but learning need for thoroughness in the course of daily work. | **□** |  |  |  |  |
| **Basic (B):** Tries to perform tasks in a thorough manner and according to formal, written procedures. May express frustration about task inefficiency, but does not effect change in procedures. |  | **□** |  |  |  |
| **Intermediate (I):** Understands, and has own specific methods of ensuring, thoroughness and detail in one’s own work. May make checklists of tasks to ensure that critical activities are completed. Detects and corrects own errors and tests work to ensure proper operation prior to completion. |  |  | **□** |  |  |
| **Advanced (A):** Offers assistance to others to help increase the degree of thoroughness and detail among peers. Possesses deep knowledge of activities needed to perform flawless execution of tasks. Double-checks work prior to customer acceptance. Accepts complex and new work as a way to challenge his/her level of thoroughness. |  |  |  | **□** |  |
| **Expert (E):** Sets specific, challenging goals that continually raise his/her level of detail orientation. Works to facilitate methods that can increase work thoroughness, yet reduce cycle time, unit cost or defect rates. Shares these methods with others. |  |  |  |  | **□** |
| Business |  |  |  |  |  |
| **Business Process Knowledge:** Informed and cognizant of the key processes in the business, as well as the business rules that impact the development and/or implementation of Information Technology. |  |  |  |  |  |
| **Novice (N):** Aware of business processes in own group or project. Can identify key processes and process leaders. | **□** |  |  |  |  |
| **Basic (B):** Familiar with all processes and their relevancy to project development. Able to discuss process flows and identify process bottlenecks. |  | **□** |  |  |  |
| **Intermediate (I):** Able to map business processes and demonstrates understanding of how process flow impacts design. Begins to identify ideas for process improvement. Sees projects within the context of overall business processes. |  |  | **□** |  |  |
| **Advanced (A):** In-depth understanding of business process flows. Familiarity with business process reengineering techniques and methods. Can prepare and defend a business case for reengineering a support process. |  |  |  | **□** |  |
| **Expert (E):** Actively seeks out areas for business process improvements. Recognized expertise in Business Process Reengineering (BPR) techniques. Able to articulate the technical concepts and ideas of process improvement to business partners. Company-wide advocate for change. |  |  |  |  | **□** |
| **Quality Process Techniques:** Knowledge of the quality techniques, methodologies, and tools required to improve business technical processes, customer satisfaction, productivity, and cost containment. |  |  |  |  |  |
| **Novice (N):** Is aware of methods and techniques for measuring quality in own work. Learning the methods and procedures used in the enterprise for developing requirements and measuring results. | **□** |  |  |  |  |
| **Basic (B):** Aware of quality techniques, standards, and measurements used in own area of work. Able to use techniques to evaluate a set of requirements and adjust as needed. Can analyze results and apply meaning to own work. |  | **□** |  |  |  |
| **Intermediate (I):** Solid knowledge of quality techniques and standards used for own work. Able to identify and relate standards and metrics in own area of work with that of other related areas. Proficient in methods, tools, and procedures used for implementing standards. Beginning to develop custom data collection processes as needed. |  |  | **□** |  |  |
| **Advanced (A):** Can develop quality process techniques for own area of work and other related areas. Able to design data collection methodologies for work expanded beyond own area of work. Uses industry benchmarks as a way to continually improve performance. Advanced experience in all methods used to implement standards across the enterprise. |  |  |  | **□** |  |
| **Expert (E):** Subject matter expert in the development, delivery, and implementation of quality process techniques and standards. Maintains industry knowledge in quality process implementation best practices. Based on continuous improvement, designs new processes, collection methods, and models. Drives new theories and internal practices, and teaches others in the use of techniques. |  |  |  |  | **□** |
| Technical |  |  |  |  |  |
| **Business Requirements Analysis:** Thorough familiarity and understanding of the intricacies of a customer's business, e.g., function, processes, and operations. Understands and can delineate technical design requirements for supporting Information Technology. |  |  |  |  |  |
| **Novice (N):** Familiar with the key business functions of the company and can identify, at a high level, the technology functions that support the various business functions. Can identify the high level process for a given business. Aware of high level of technical design for own area of work or responsibility. | **□** |  |  |  |  |
| **Basic (B):** Can describe the mission and objectives of a given business function and identify the key processes within that business function. For each key business process, can identify the various technical components that comprise technology support, i.e. hardware, software and network components. |  | **□** |  |  |  |
| **Intermediate (I):** Can review customer business requirements and determine where support is needed relative to existing technical systems design. Can identify key opportunities for redesign of systems infrastructure to meet customer needs. Familiar with integration and migration of platforms into the customer’s business environment. |  |  | **□** |  |  |
| **Advanced (A):** Can review customer business requirements in order to recommend new products and services that can be integrated and deployed in that environment. Analyzes the cost effectiveness of one intervention versus others that may be recommended. Understands and can identify most of the key business processes within the company and the technologies that support them. Understands and can discuss the interrelationship of businesses and technologies within the company. |  |  |  | **□** |  |
| **Expert (E):** Has breadth of knowledge of all key business functions in the company and the technologies supporting them. Understands planned and existing architectures. Can compare business systems used in the company with those in similar companies in the industry. Maintains knowledge of business strategies and their supporting technology initiatives. |  |  |  |  | **□** |
| **Information Technology Knowledge:** Maintains and applies specific knowledge of BI & Portal Technology elements (hardware, software, network) and their application to business functions/processes. |  |  |  |  |  |
| **Novice (N):** Understands the basic need for technical support in a business. Aware of the primary uses of technology by customers, learning the systems of the enterprise and the customers affected. | **□** |  |  |  |  |
| **Basic (B):** Possesses a basic understanding of the strategy, structures, processes and procedures of the enterprise in its relationship with the business and its activities. |  | **□** |  |  |  |
| **Intermediate (I):** Knows the strategy, structures, processes, procedures and key technical elements of the enterprise. Knows the primary customers of the enterprise and the technical elements supporting them. |  |  | **□** |  |  |
| **Advanced (A):** Shares information about the strategy, structures, processes, procedures and key technical elements of the enterprise. Understands and can describe the business delivery impact of system reliability. |  |  |  | **□** |  |
| **Expert (E):** Translates knowledge of the interrelationships between technical elements into business strategies. Understands and can apply enterprise perspective and impact into business and customer issues. Plays a key role in the development of best practices and/or the pioneering of new approaches. |  |  |  |  | **□** |
| **Project/Program Management:** Understands the principles, theories, practices, and techniques involved in planning, managing, and implementing projects and programs. |  |  |  |  |  |
| **Novice (N):** Understands and can identify the primary tasks involved in project management. Can explain the general organization of projects as they relate to programs within the enterprise. Learning specific project management elements of phase, activity, task and deliverable. | **□** | **□** |  |  |  |
| **Basic (B):** Can explain the project management elements of phase, activity, task and deliverables, as well as task dependencies. Able to define and track own activity within a project. Familiar with project administration tools and can demonstrate basic proficiency in their use. |  |  | **□** |  |  |
| **Intermediate (I):** Can prepare and execute an entire project plan including dependencies. Can document status reports for project team members. Can estimate time and activities for own work using project management tools and maintains communications with project team members and customers. |  |  |  | **□** |  |
| **Advanced (A):** Able to define, staff and manage multiple projects as part of a program. Has in-depth knowledge of project management tools; utilizes them to monitor project plans, takes corrective steps to adjust anomalies. Able to develop cost/benefit analyses and track project and program costs. Maintains knowledge and expertise with project management tools and techniques; provides assistance to other Project and Program Managers in the development of plans. |  |  |  | **□** |  |
| **Expert (E):** Sought after as expert in Project and Program Management. Champions Project Management methodology in the enterprise and can provide management expertise to multiple, complex projects with high business impact and high financial risk. Concentrates on efficient resource utilization and often establishes best practices in Project/Program Management. |  |  |  |  | **□** |

## Spider Chart Analysis - Data E & I - Data Science & Analytics

The chart below provides the target competencies associated with each career level converted into numbers using the Numerical scale: N=1, B=2, I=3, A=4, E=5.

Enter the employee’s current competency level and target competency level in the attached Excel template to do produce a spider chart illustration career development needs.



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CAREER MODEL LEVEL/COMPETENCY** | **Data Analyst/Jr. Data Scientist (Intern)** | **Data Scientist** | **Senior Data Scientist** | **Principal Data Scientist** | **Head – Data Science** |
| *Role* | ***Data Analyst & Jr. Developer*** | ***Developer*** | ***Sr. Developer*** | ***Lead*** | ***Head*** |
| Communication for Results | 2 | 3 | 3 | 4 | 4 |
| Information Seeking | 2 | 3 | 4 | 4 | 5 |
| Initiative | 1 | 2 | 3 | 3 | 4 |
| Innovation | 1 | 3 | 4 | 4 | 5 |
| Problem Solving | 2 | 3 | 4 | 4 | 5 |
| Teamwork | 2 | 3 | 4 | 5 | 5 |
| Thoroughness | 3 | 4 | 5 | 5 | 5 |
| Business Process Knowledge | 1 | 3 | 4 | 4 | 4 |
| Quality Process Techniques | 1 | 2 | 3 | 3 | 4 |
| Business Requirements Analysis | 1 | 3 | 4 | 4 | 5 |
| Information Technology Knowledge | 1 | 3 | 4 | 4 | 5 |
| Project/Program Management | 1 | 3 | 4 | 4 | 4 |

In the example, John’s career proficiencies are evaluated as below. The following charts provides a visual analysis of his career development gaps against targets listed above at each level.

|  |  |
| --- | --- |
|  |  |
| Communication for Results | 2 |
| Information Seeking | 2 |
| Initiative | 1 |
| Innovation | 1 |
| Problem Solving | 2 |
| Teamwork | 2 |
| Thoroughness | 2 |
| Business Process Knowledge | 1 |
| Quality Process Techniques | 1 |
| Business Requirements Analysis | 1 |
| Information Technology Knowledge | 1 |
| Project/Program Management | 0 |

## Training Plan - Data E & I - Data Science & Analytics

Many of the items in the following learning map can be used as a guide to help identify development action plans as part of the employee assessment needs:

| **COMPETENCY** | **DEVELOPMENTAL ACTIVITIES** | **OTHER SOURCES OF DEVELOPMENT** | **RECOMMENDED TRAINING** |
| --- | --- | --- | --- |
| Behavioral |  |  |  |
| **Communication for Results**: Expresses technical and business concepts, ideas, feelings, opinions, and conclusions so that others understand or are persuaded to act. Creates an environment that encourages and values the opinions of others, and promotes sharing of information and ideas. | **Encourage Flexibility**  Establish effective communication channels with project team members by encouraging flexibility  in approaches and problem solving. Empower team members and practice interactive, proactive listening. Avoid imposing your paradigms and assumptions on others.  **Propose a Solution**  Assemble a one-time group of people you respect and ask for help assessing and solving a  Significant challenge. Record all known factors and develop a proposed solution. Ask the group  for feedback on your plan and suggested improvements.  **Summarize and Present Trends**  Study and summarize a new trend, product, service, technique, or process. Present and sell it to others.  **Assume Project Responsibility**  Take responsibility for a project requiring a series of presentations that clearly define the project's mission, objectives, plan, progress, and recommendations. Seek opportunities for speaking engagements inside and outside the company. Select a mentor with excellent communication skills. | **Books:** | **Courses:**  **Cross-Functional Communications**  **Speaking Skills and Communication Styles**  **Speech Course** |
| **Information Seeking:** Thoroughly investigates and researches multiple sources to expose details and complete information about resources, issues, problems, and so forth. Conducts in-depth research, asks probing questions, and transcends surface issues. | **Assess Problem Resolutions**  When faced with a new or complex IT problem, seek out multiple explanations for the problem, as well as multiple methods of resolution. Carefully assess the best diagnosis and resolution for the problem.  **Identify Organizational Resources**  Identify available organizational resources that could be helpful to you in your job. Also identify  those not available but potentially beneficial to you, and suggest these resources to your manager. | **Books:** | **Courses:**  **Information-Gathering Techniques**  **Research and Analytical Skills** |
| **Initiative:** Proactively identifies present and future obstacles, issues, and opportunities. Takes actions to address such obstacles. | **Evaluate Current Technologies**  Continuously evaluate current technologies and processes to identify areas for improvement. Look for new technology that may better serve the interests of clients. Investigate these and use benchmark data results to help with the evaluation process.  **Identify Opportunities for Initiative**  Work with a person who demonstrates a high level of initiative. Discuss how this person identifies events in which initiative can be taken. Others’ input can broaden your options by identifying ideas not previously considered. | **Books:** | **Courses:**  **Process Improvement**  **Self-Leadership** |
| **Innovation:** Motivated to improve organizational performance through the introduction of new ideas, methods, processes, products, or services. Develops new ways of looking at a situation. | **Study the Work of Competitors**  Study competitive innovations and consider potential innovations that go beyond them. Learn to springboard your own work off groundbreaking work that has already been accomplished.  **Think Out of the Box**  When addressing a problem or situation, make a conscious effort to think ‘out of the box’ (understanding the group, organization or enterprise impact). Participate in "what if" scenarios with a project team. | **Books:** | **Courses:**  **Creative Thinking**  **Problem Solving Skills** |
| **Problem Solving:** Thinks critically and anticipates, recognizes, identifies, and develops solutions to problems in a timely manner. | **Break Down Problems**  When faced with an issue or problem, break the problem down into manageable parts. Ask questions to increase your understanding of the events that led to the current situation. Consider various ways the situation can be resolved.  **Identify Potential Solutions**  Without placing judgment, list potential solutions as they come to mind until all possible solutions are listed. Before selecting a solution, consider the impact of your choice. Determine the potential consequences of your decision or action. | **Books:** | **Courses:**  **Creative Problem Solving**  **Successful Problem Solving** |
| **Teamwork:** Fosters an environment where individuals collaborate in pursuit of a common mission and mutual goals. | **Encourage Collaborative Behavior**  Encourage and support individuals who demonstrate collaborative team behaviors, especially if their attempts are less than successful. For the benefit of the team, comment on the need to continue promoting collaborative working relationships.  **Participate in Team Building**  Participate in a team building exercise.  **Provide Constructive Solutions**  When faced with others’ negativity or stress, consciously avoid responding in the same manner. Instead, look for ways to provide constructive solutions.  **Seek Consensus**  Seek consensus whenever possible. Avoid taking significant action until everyone has been heard and can agree to support it as the best course of action under the current circumstances. | **Books:** | **Courses:**  **Motivational Training**  **Teambuilding and Teamwork**  **Working Collaboratively** |
| **Thoroughness:** Demonstrates careful attention to detail. Keeps tasks and responsibilities clearly defined, on schedule, and error-free. Carries tasks, assignments, etc., through to completion. | **Establish Expectations**  Establish specific measures for the projects you are managing or for which you are responsible. Inform others of your specific expectations, including what is to be accomplished, by whom, and when.  **Request Feedback**  Request regular feedback on your work; use this feedback to identify strengths and weaknesses.  Develop a plan for improving the quality of your work.  **Review Work Plans**  Prior to progress meetings, review your initial work plan and note the nature and rationale for any changes that may be needed. At the close of meetings, ensure that you and the team have a clear understanding of performance expectations and quality standards. | **Books:** | **Courses:**  **Detail Orientation**  **Effective Time Management**  **Project Planning & Control** |
| **Business** |  |  |  |
| **Business Process Knowledge:** Informed and cognizant of the key processes in the business, as well as the business rules that impact the development and/or implementation of Information Technology. | **Develop Process/Function Knowledge**  Determine what business process/function knowledge is needed to achieve your career goal. Pursue special assignments or projects to develop any required knowledge.  **Interview Subject Matter Experts**  Conduct informational interviews with subject matter experts in specific business functions.  **Understand Business Processes**  Read company information on its business processes/functions. | **Books:** | **Courses:**  **Business Process Analysis**  **Business Process Logic**  **Emerging Technologies & Business Performance** |
| **Quality Process Techniques:** Knowledge of the quality techniques, methodologies, and tools required to improve business technical processes, customer satisfaction, productivity, and cost containment. | **Create Process Improvements**  Continually look for ways to change and improve processes to create sustained system/process improvements.  **Encourage Change**  Develop ways to actively encourage change. Where appropriate, make public statements that empower your associates to implement new ideas. Train your staff to understand how to evaluate root causes, brainstorm, and select the best solution. | **Books:** | **Courses:**  **Quality Tools** |
|  |  |  |  |
| **Technical** |  |  |  |
| **Business Requirements Analysis:** Thorough familiarity and understanding of the intricacies of a customer's business, e.g., function, processes, and operations. Understands and can delineate technical design requirements for supporting Information Technology. | **Align Projects with Organizational Strategy**  Map your projects to the organization’s long-term strategy. Measure how well they are aligned and identify any gaps or opportunities to apply some of your work to other areas that are not closely linked.  **Identify System Relationships**  Flow-chart how various systems within one functional area affect other systems. Use this visual tool to anticipate and address larger organizational issues.  **Look Beyond Immediate Needs**  When designing a system or addressing current application issues, look beyond the clients' immediate needs. Address these issues to ensure that you are solving more than just the immediate problem. Attempt to see the "big picture". | **Books**:  IIBA-BABOK | **Courses**:  **Analytical Thinking**  **Common Business Functions**  **Requirements Analysis**  **IIBA Training** |
| **Information Technology Knowledge:** Maintains and applies specific knowledge of BI & Portal Technology elements (hardware, software, network) and their application to business functions/processes. | **Learn Other Applications**  When feasible, take on assignments to increase your knowledge of other applications currently used by the organization.  **Read Technology Periodicals**  Keep abreast of new and emerging technologies, as well as advances in existing technologies, by reading trade periodicals or attending technology-focused conferences. | **Books:** | **Courses:**  **SAP Courses on BI & Portal – BW, BOBJ, Mobility, Portal**  **SAP Events**  **TDWI Training & Events** |
| **Project/Program Management:** Understands the principles, theories, practices, and techniques involved in planning, managing, and implementing projects and programs. | **Learn Project Scope**  When acting as a member of a project team, make an effort to learn more about the management of the project and its scope, rather than just your individual responsibilities.  **Join Project Status Updates**  Ask to join project status update meetings (if not already involved). Pay attention to the management activities needed to keep a project on time and within defined scope.  **Apply Project Management Tools**  When feasible, take on assignments to gain exposure to applying Project Management tools and techniques.  **Read PM Periodicals**  Keep abreast of new and emerging trends in Project Management (tools, techniques, lessons learned) by reading periodicals and journals.  **Enroll in PMI**  Enroll as a member of the Project Management Institute (PMI). Attend local, PMI-sponsored meetings and events. | **Books:**  PMI-PMBOK | **Courses**:  **Project Control**  **PMI Training** |
|  |  |  |  |
|  |  |  |  |